University of Guelph Guide to the
Canada Foundation for Innovation John R. Evans Leaders Fund
Assessment Criteria (Proposal)

(Co-funding with MCU Ontario Research Fund – Small Infrastructure Fund)

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This guide provides information and resources for completing the CFI JELF Assessment Criteria (written proposal).

This Guide should be referred to when using the University of Guelph CFI JELF Template. Additional resources are available on the UG CFI JELF website.

Total CFI Request ($)	Components to be Completed	Maximum number of pages (Including references)
< or = to $75,000	1. Research or Technology Development 2. Researchers 3. Infrastructure *NOTE: This option is only available to those in the Social Sciences and Humanities.*	10
>$75,000	**ALL** components required: 1. Research or Technology Development 2. Researchers 3. Infrastructure 4. Sustainability 5. Benefit to Canada	15

1. RESEARCH *OR* TECHNOLOGY DEVELOPMENT
The title for this section should either be Research Development or Technology Development - choose the title that makes the most sense. Definitions from CFI are:

Research Development
Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts or on new knowledge directed primarily towards a specific practical aim or objective.

OR

Technology Development
Systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or substantially improving those already produced or installed.

We suggest you use the following headings:

1.1. Research Description

Describe the proposed research or technology development. What is your 5-year goal? (a new model? a new process or approach? Foundational knowledge?)

Context [recommend 1-2 paragraphs max]
We recommend using third person (e.g., Dr. X)
Describe the research issue and clearly explain its need for further investigation.
What is the problem that you're trying to solve? Why is it important? Why is your approach needed and/or what essential gap are you filling? Acknowledge what is being done nationally/internationally (including references) and explain why your approach is justified.
In one sentence, introduce yourself and Co-PIs. Mention the equipment you will be requesting and indicate that it is essential.

Objectives
List your research objectives. The research should be achievable within 5 years. If this project is part of a larger program of research, situate it within the larger program.

Methodology *(for each Objective)*
Describe each research objective and explain your proposed plan (method) for each. If you have Co-PI's, identify who is working on which objective in the objective title. Use the same Objective phrasing as used above. If you wish, you can break down each objective into components. Demonstrate that the project is feasible and can be accomplished in 5 years. Ensure reviewers understand if your objectives will be worked on sequentially or simultaneously.

If your research involves the purchase of computing services and applications – please review and begin the UofG Security and Risk Assessment Process. If you mention saving data with the Digital Research Alliance of Canada – where are you in the approval/review process?

Ensure your research plan is solid as this section is crucial for expert reviewers. If your methodological approach is new or unconventional, explain it and cite sources to justify your

choices. Include methodological detail (e.g., replicates, timing, steps) as your reviewers are subject specialists.

If you reference the requested infrastructure in your methodology, identify in brackets which Item # it is from Section 3.
e.g., Dr. Y will use the centrifuge (Item 2) to xxxxxx.

If an Early Career Researcher (ECR), consider referring to and citing your own work (occasionally) to demonstrate that the proposed project builds upon previous work (to support feasibility).

If one of your objectives relies on another person/lab or is in a field that is relatively new to you, mention your collaborator. Sometimes collaborators provide advice, training, technical support. Mention them in Section 2.2. Only mention _essential_ collaborators.

1.2 Innovation
Demonstrate the innovativeness and feasibility of the proposed activities by positioning them within the national and international context, describing the proposed approach (including references).

In two or three paragraphs, show how your research will fill a gap (in knowledge or methodology) in the field.   Clearly position your research– i.e., how is your research different or complementary? What previously insoluble problems will you solve? What important questions will you answer and if unclear, why are these important questions?

Be sure you do a fair self-assessment and show an awareness of other universities/researchers who are engaged in similar research. Briefly mention others in the field, but clearly identify what is unique about your research program.

Avoid simply stating your research is unique or innovative – explain and justify why it is, and why it's crucial for progress in the field.

1.3 Institutional Priority
Describe alignment with an area of institutional priority.

In one paragraph: How does your research support one or two strategic disciplines or themes from the university's [strategic research plan](). Your CRM and/or ADRGS will likely be able to assist with this section. Focus on Disciplines and Themes only.

2. RESEARCHER(S)
Length of this section will depend on how many researchers are involved in project (e.g., co-PIs)

Assessment Criteria from CFI JELF Guidelines:

> *The researchers demonstrate excellence and leadership at a level appropriate for the stage of their career. The researchers have the expertise or relevant collaborations to conduct the research or technology development activities.*
>
> ☐ *Describe the researchers' track record, including scientific and technical expertise relevant to conduct the proposed activities.*
>
> ☐ *Describe the collaborators and partners' contributions essential to the success of the proposed activities.*'

2.1 Track Record

Describe your background, accomplishments and training (if ECR) including scientific and technical expertise relevant to conduct the proposed activities.

In 2-3 paragraphs, describe what prepares you to conduct this scientific project. Provide specifics about relevant research discoveries (and cite the publication(s) documenting these discoveries), to past or ongoing collaborations, to past successes (mention previous JELF's if applicable), methodological experience etc.

If the equipment you are requesting is complex/specialized, describe what prepares you to use the requested infrastructure. You can refer to similar projects utilizing this equipment (cite publication where relevant, any specialized training received, your experience using similar equipment etc.

Use this space strategically and don't duplicate material from the CV. Highlight research accomplishments directly pertaining to the proposed project, and state how they are relevant.

2.2 Collaborators' and partners' contributions

Describe the collaborators and partners' contributions _essential_ to the success of the proposed activities.

If you are collaborating with other researchers (at UG or elsewhere) and their contributions are **required to achieve the objectives**, explain what they will contribute to the proposed project. If the project involves other organizations (e.g., industry or community partners), how are these organizations contributing to the success of project? Do you have previous collaborations with them?

3. INFRASTRUCTURE

> **Assessment Criteria from CFI JELF Guidelines:**
> *The infrastructure is necessary and appropriate to conduct the research or technology development activities.*
>
> ☐ *Describe each item and justify its need to conduct the proposed activities. For construction or renovation, provide a description of the space including its location, size and nature. Use*

the item number, quantity, cost and location found in the "Cost of individual items" table. Provide a cost breakdown for any grouping of items.

☐ *Explain why existing infrastructure within the institution and the region cannot be used to conduct the proposed activities.*

Note: *For construction or renovation (that exceeds 1 room or cost is in excess of $500K) a detailed cost breakdown, timeline and floor plans must be provided in a separate document (that RFS will upload) as part of the finance module.*

3.1   Infrastructure required for proposed activities

Start with a sentence explaining if/how inflation has been added to your pricing.

e.g., Note: all pricing includes x% for inflation.   Renovations include a 10% contingency, as recommended by the University's Physical Resources Department.

Group your equipment into functional suites, with each suite being an Item #.
For each Item, list cash $, in-kind $, total $ and the associated objective.

e.g., Item #1 - Field Vehicle (Cash $22,000, In-kind $8,729, Total $30,729) Objective 1, 3. [Follow with justification text]
Or
e.g., Item #1 Molecular Lab Suite (Cash $xx, In-kind $yy, Total $zz) Objective 2
1a Spectrophotometer (Cash $xx, In-kind $yy, Total $zz) [Follow with text]
1b Refrigerator (Cash $xx, In-kind $yy, Total $zz) [Follow with text]
1c Centrifuge (Cash $xx, In-kind $yy, Total $zz) [Follow with text]

Describe each item and justify its need to conduct the proposed activities in a clear and concise manner. Is the equipment you are requesting the most appropriate choice? Succinctly describe and justify the unique features and functions of the requested equipment.

Your proposal will be reviewed by 2-3 experts in the field who are familiar with the equipment, and its cost.   Anticipate their questions:
- Why do you require more than one of a given item? (if applicable).
- If a specific type/make/model/style is required (and it is more expensive than another similar equipment) then justify this choice.
- If a large amount of in-kind will be provided by the supplier, give an explanation why it is being offered and how it has been valued.

Ensure Items listed in the assessment criteria match the phrasing and order in the budget spreadsheet.

Training and extended warranties are eligible expenses but are not required. Often the supplier will provide a high in-kind contribution for these items.

For construction or renovation (required to house the infrastructure), provide a description of the space including its location, size and nature. If appropriate, mention the location of where

the item will be located (e.g., in a central facility such as the AAC, in an existing lab that has capacity).

Add a sentence if shipping and duty are included in the pricing.

Avoid brand names in the Item title (e.g., use Field Vehicle rather than Dodge Ram 150). Models and pricing change from time of application to time of purchase, and you want to have flexibility to make changes.

3.2 Existing infrastructure

Explain why existing infrastructure within the institution and the region cannot be used to conduct the proposed activities.

Speak to your CRM and/or ADRGS for assistance with identifying whether similar equipment is available at UGuelph. You can also check CFI's published list of funded projects, downloadable as excel file or CFI's Navigator website.

4. SUSTAINABILITY

> **Assessment Criteria from CFI JELF Guidelines:**
> The infrastructure is optimally used and sustainable through tangible and appropriate commitments over its useful life
> ☐ Present a management plan that addresses the optimal use (e.g., user access and level of use), and the operation and maintenance (O&M) of the infrastructure over its useful life.
> ☐ Provide detailed information on O&M costs and revenue sources, including institutional commitment. Refer to the "Financial resources for operation and maintenance" tables.

4.1 Management Plan

Present a management plan that addresses the optimal use and the operation and maintenance (O&M) for the lifespan of the infrastructure.

Who will use the equipment? Who will train users and ensure safety protocols are followed? Who will manage the equipment and ensure it is maintained?   Will this equipment be used 100% of the time? If not 100%, will others be able to use the infrastructure? Will you charge user fees? How will people access the equipment when not in use by you and your team? How will that be scheduled? (e.g., online booking system). If housed in the AAC or another shared UG facility, refer to that facility's policies/procedures.

CFI expects you to maintain and operate the equipment for its useful life. For example, if your equipment is expected to last 20 years, also briefly mention if your management plan applies for the 15 years beyond this JELF, and how it will be funded (e.g., operating grants, CFI Infrastructure Operating Funds, with additional funds available from RSO upon approval).

4.2 Operations and Maintenance (O&M)

Provide a description of operation and maintenance expenses and revenues for the first five years. Refer to the numbers you provided in the CAMS Project Module "Operation and Maintenance table).

Ensure each Year expenses = Year revenues.

Possible expenses: servicing of equipment (e.g., calibration), replacement of components, supplies, purchase of extended warranty (if not included in Section 3 infrastructure), technician time that you will pay.

Possible revenues: Institutional contributions include Infrastructure Operating Funds (IOF), start up funds, departmental or college contributions etc. If user fees will be charged for others to use the equipment, anticipate their revenues on an annual basis. If you will be using research funds (e.g., NSERC grant) only include the amount dedicated to O&M.

Note for awareness (no need to get into this detail in your proposal): At UG, you will receive 18% of your CFI allocation in IOF funds and you will have 10 years to spend it. Your entire IOF allocation does *not* have to be budgeted in the 5 years of the O&M budget summary table. Should you require additional IOF funds, they can be requested and are conditional on AVPR approval.

Expenses →

Operation and maintenance budget summary

	Year 1	Year 2	Year 3	Year 4	Year 5
Personnel					
Supplies					
Maintenance and repairs					
Services					
Other (specify) _____ 30 characters					
Total	$0	$0	$0	$0	$0

Revenues →

Funding sources

	Year 1	Year 2	Year 3	Year 4	Year 5
Institutional contributions					
Other organizations					
User fees					
Other (specify) _____ 30 characters					
Total	$0	$0	$0	$0	$0

5. BENEFIT TO CANADIANS

Assessment Criteria from CFI JELF Guidelines:
The research or technology development results will be transferred through appropriate pathways to potential end users and are likely to generate social, health, environmental

> *and/or economic benefits to Canadians, including better training and improved skills for highly qualified personnel*
>
> *(Highly qualified personnel include technicians, research associates, undergraduate students, graduate students and postdoctoral fellows).*
>
> ☐ *Briefly describe potential socioeconomic benefits, including better training and improved skills for highly qualified personnel.*
>
> ☐ *Delineate the knowledge mobilization plan and/or technology transfer pathways, including partnerships with end users*.

5.1 Benefits
Outline the main benefits of your proposal.

<u>Economic Benefits</u>
Can be cost savings (improved efficiency) or wealth generation. Use plausible numbers rather than making general statements and cite sources. Identify anticipated commercialization or technology/knowledge transfer, patents, spin-off companies, where appropriate. Consider:

- Current $ value of the economic sector
- What impact ($ growth) will your research have on this market?
- Number of people involved/employed within sector?
- Who will buy your research and why? Will they buy it to: save money, if so how and how much? generate sales, if so, how much and from whom? save the environment, if so what savings or revenues will the buyer receive? Improve quality of life, if so, how?
- Will your research create jobs? What type? How many? When? Where-what sector and geographical location?
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    - What impact ($ growth) will your research have on this market?
    - Number of people involved/employed within sector?
    - Who will buy your research and why? Will they buy it to: save money, if so how and how much? generate sales, if so, how much and from whom? save the environment, if so what savings or revenues will the buyer receive? Improve quality of life, if so, how?
    - Will your research create jobs? What type? How many? When? Where-what sector and geographical location?
- How will your research reduce cost for sector?

<u>Helpful links:</u>
- Canada business network <u>Industry sector data</u>
- Canadian <u>Industry Statistics</u>
- Federal <u>Budget</u>
- <u>Conference Board of Canada</u>

<u>Social Benefits (including health and environment)</u>
How will your research impact quality of life or reduce the burden of disease? What impact might your research have on policy development and improvements in society?

How will research lead to reductions in negative health, environmental, social outcomes or increases in positive? (Quantify where possible.)

<u>Better training and improved skills</u>
How will this research project/infrastructure help create and strengthen an environment that attracts HQP? HQP includes technicians, research associates, undergraduate students, graduate students and postdoctoral fellows. Provide projected HQP numbers (if possible) for the 5 years of this project. Consider referring to past experiences with HQP.
- How will the training be innovative and what will they learn? What skills will they develop?
- Does this training meet current and emerging trends and labour demands in the field in Canada and/or globally? How will your training support growth in this employment sector and research field? Support your claims with current sector statistics.

5.2 Knowledge Mobilization OR Technology Transfer
What is your knowledge mobilization plan or tech transfer pathway to achieving the benefits you identified above? What partnerships do you have with end-users? Provide realistic timelines for realizing impacts.

- Identify potential users of the research results that are relevant to achieving the benefits outlined in the first section: Industry, Health providers, Government agencies
- What plans do you have to make your research accessible and usable by any of these groups? How will you disseminate information to end users who do not read or access scientific articles?
- What is the expected timeline for your anticipated benefits to be realized? Be specific-e.g. short = 5-7 years
- Mention and highlight any success you have had working with the KT Unit at UofG/OMAFRA partnership and or Research Innovation Office to make your research applicable to other users.
- Mention and highlight any public engagements, work done with UG Research Communications such as press releases, etc., as examples of what may apply to your project in the future.

References:
You can use an abridged format and smaller font, if needed.